UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,765	02/06/2002	Chosaku Noda	219283US2S	5816

			EXAMINER
22850	7590	11/10/2004	BAKER, STEPHEN M

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ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/066,765	NODA ET AL.
	Examiner	Art Unit	
	Stephen M. Baker	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3,8,12 and 17* is/are rejected.

7) ☒ Claim(s) *4-7,9-11,13-16 and 18-20* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>20602,31504,31904</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Drawings

1.   The drawings are objected to because in Fig. 4, "Logical sector data 5-16"

apparently should be "Physical sector data 5-16".

2.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing

figure is to be canceled, the appropriate figure must be removed from the replacement

sheet, and where necessary, the remaining figures must be renumbered and

appropriate changes made to the brief description of the several views of the drawings

for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office

action. The objection to the drawings will not be held in abeyance.

Specification

1.   The disclosure is objected to because of the following informalities:

On page 13: in lines 17 and 20, "3-1 to 3-31" apparently should be "3-0 to 3-31."

On page 14: in line 14, "physical sector data 6-0" apparently should be "physical

sector data 5-0."

Appropriate correction is required.

Claim Objections

2.   Claims 12 and 13 are objected to because of the following informalities:

In claim 12: in lines 4 and 6, "generating" apparently should be "generate."

In claim 13: in line 2, "generate" apparently should be "generates."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-3, 8, 12 and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 6,539,512 to Jeong *et al* (hereafter "Jeong").

Jeong discloses arrangements for recording data onto a HD-DVD medium using

an interleaving of data from multiple DVD-type ECC blocks in order to increase the burst

error correction capacity of the ECCs compared to a DVD. Jeong's Fig. 4 shows data of

two ECC blocks interleaved together. ECC block A consists of sectors A1 - A16, and

ECC block B consists of sectors B1 - B16. The combination of upper and lower

208x182-byte halves in Jeong's Fig. 4 arrangement of two ECC blocks provides two

"physical sector data blocks" to be recorded into two "physical sector areas" and each

half is "generated by combining some data contained in a plurality of ECC blocks."

Jeong does not show the "management area where management information is

recorded." Official Notice is taken that the standard DVD format includes a

"management area where management information is recorded." It would have been

obvious to a person having ordinary skill in the art at the time the invention was made to

realize an HD-DVD in accordance with the disclosure of Jeong that also includes a

"management area where management information is recorded." Such a realization

would have been obvious because the standard DVD format already included a

"management area where management information is recorded," and because Jeong's

HD-DVD format is designed to be compatible with the general DVD format.

Regarding claim 2, the original data (*i.e.* non-parity) part of each of Jeong's DVD-

type ECC blocks is a "sector block" consisting of a plurality of "segmented blocks," and

each of the "segmented blocks" has "parity data" (inner-code parity) "individually"

appended thereto in generating the ECC block. Outer-code parity is also generated for

the ECC block and the 16 rows of outer-code parity are interleaved (spread) among the

rows of the ECC block to occupy every 13th row. Jeong does not specify generating an

entire 16-sector "sector block" of "sector data items" before adding the inner-code ECC

"parity data." Official Notice is taken that gathering all the data needed to generate a

product code before the product coding begins (*i.e.* before generating the inner-code

and outer-code ECCs) was a typically-used product code generation practice at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Jeong's HD-DVD ECC block generation by gathering all the "sector data items" (*i.e.* rows of non-parity data) needed to generate the ECC block before the ECC block generating process begins. Such an implementation would have been obvious because gathering all the data needed to generate a product code before the product coding begins (*i.e.* before generating the inner-code and outer-code ECCs) was already a typically-used product code generation practice.

Regarding claim 3, each of Jeong's un-coded sectors includes a "data ID" (Fig. 7) in the first row thereof. The un-coded data (*i.e.* non-parity) part of each of Jeong's DVD-type ECC blocks is a "sector block" consisting of a plurality of "segmented blocks," and each of the "segmented blocks" has "parity data" (inner-code parity) "individually" appended thereto in generating the ECC block. Outer-code parity is also generated for the ECC block and the 16 rows of outer-code parity are interleaved (spread) among the rows of the ECC block to occupy every 13th row. Jeong does not specify generating an entire 16-sector "sector block" of "sector data items" before adding the inner-code and outer-code ECC "parity data." Official Notice is taken that gathering all the data needed to generate a product code before the product coding begins (*i.e.* before generating the inner-code and outer-code ECCs) was a typically-used product code generation practice at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Jeong's

HD-DVD ECC block generation by gathering all the "sector data items" (*i.e.* rows of non-parity data) needed to generate the ECC block before the ECC block generating process begins. Such an implementation would have been obvious because gathering all the data needed to generate a product code before the product coding begins (*i.e.* before generating the inner-code and outer-code ECCs) was already a typically-used product code generation practice.

Regarding claim 8, the rows of the two 208x182-byte "physical sector data blocks" shown by Jeong in Fig. 4 are written into a "physical sector area" in accordance with a "predetermined rule," which is row-by-row, consecutively.

Regarding claim 12, Jeong's Fig. 3 recording data generating process comprises a "generation section configured to generating a plurality of ECC blocks," 102, and a "recording section configured to generating a plurality of physical sector data blocks by combining some data contained in the plurality of ECC blocks," (104, 106), and "recording the plurality of physical sector data blocks on a plurality of physical sector areas on the information medium" (OUTPUT).

Regarding claim 17, Jeong does not show the interblock interleaver-complementary (*i.e.* interblock de-interleaver) processing that is to be performed upon reading back of the recorded data. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement reading back of Jeong's recorded data by means including a "reproduction section configured to reproducing data by generating the plurality of ECC blocks from the plurality of readout physical sector data blocks" so that ECC blocks may be regenerated and ECC-

decoded, because a readback processing of interleaved data course requires the

complementary deinterleaver process. Reading back of the recorded data would also,

of course, require a "read-out section configured to reading out the plurality of physical

sector data blocks from the plurality of physical sector areas on the information

recording medium."

Allowable Subject Matter

5.   Claims 4-7, 9-11, 13-16 and 18-20 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all

of the limitations of the base claim and any intervening claims.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Stephen M. Baker whose telephone number is (571)

272-3814. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30

PM).

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen M. Baker
Primary Examiner
Art Unit 2133

smb